Fig.1

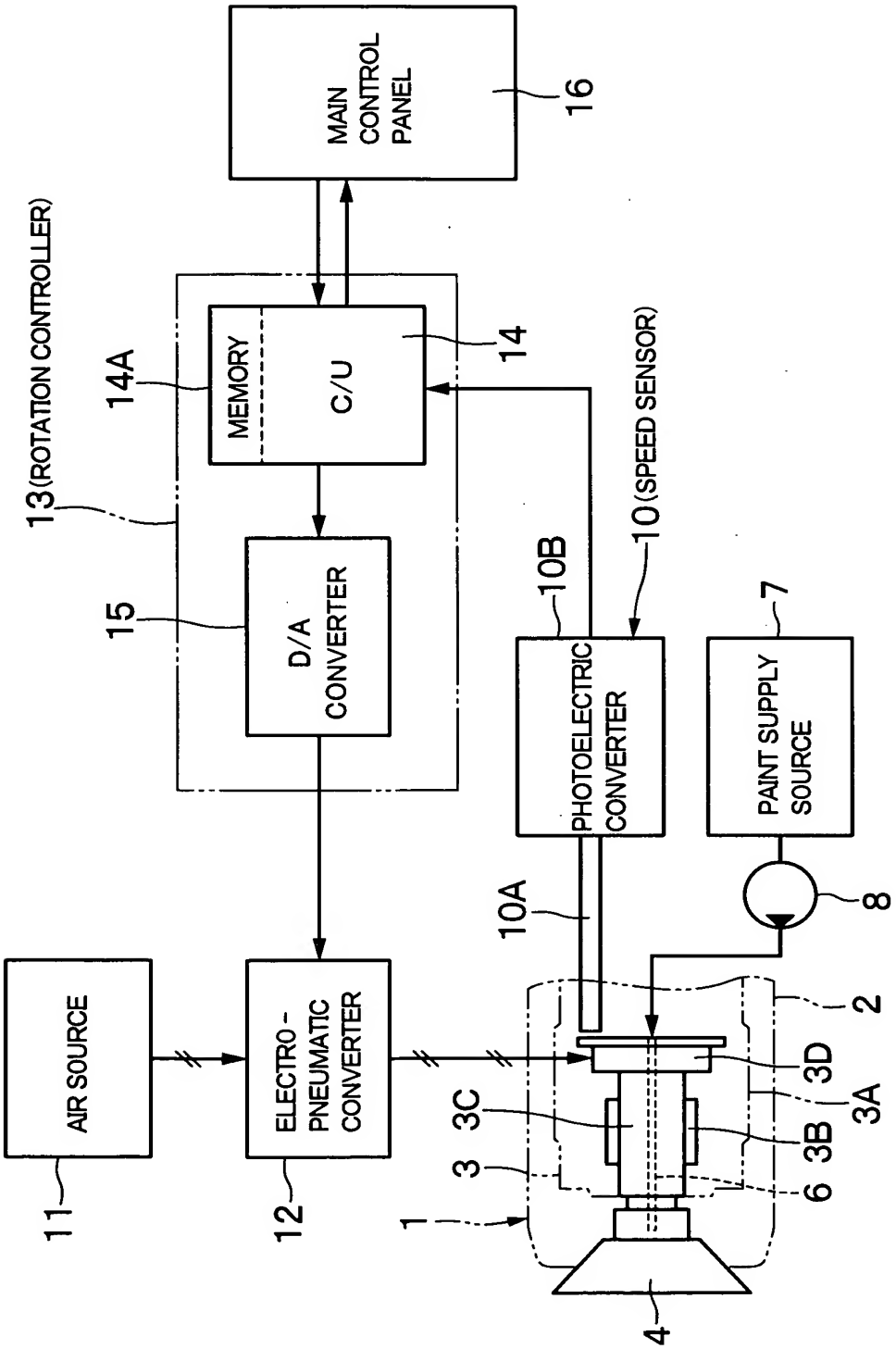

MAIN CONTROL PANEL
16
13 (ROTATION CONTROLLER)
14A
MEMORY
C/U
14
15
D/A CONVERTER
10B
10 (SPEED SENSOR)
PHOTOELECTRIC CONVERTER
7
PAINT SUPPLY SOURCE
10A
8
AIR SOURCE
ELECTRO-PNEUMATIC CONVERTER
2
3D
3A
3C
3B
3
6
1
11
12
4

Fig.2

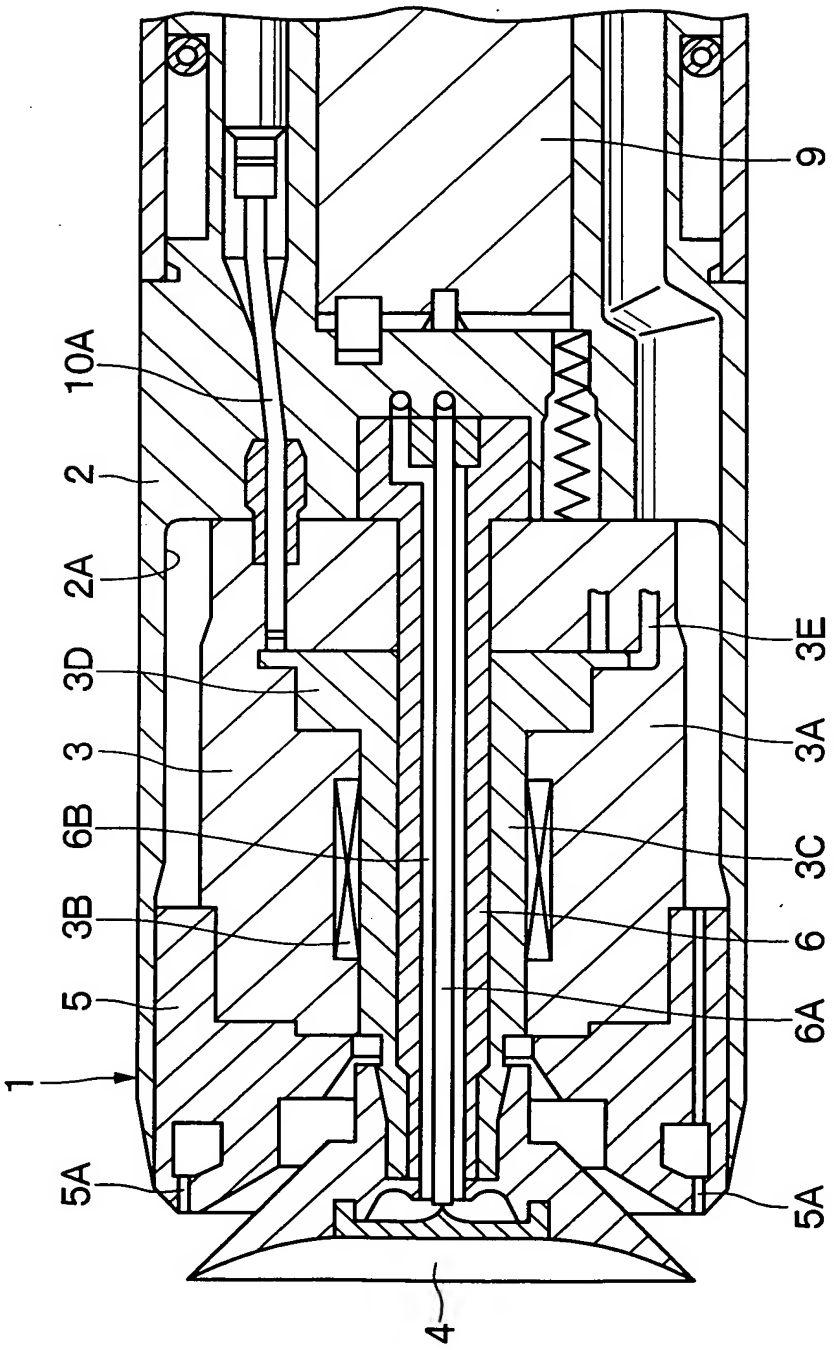


Fig.3

17 (ROTATIONAL DATA SELECTION PROCESSING TABLE)

		PAINT DISCHARGE RATE[cc/min]						
		0	100	200	300	400	···	1000
TARGET ROTATIONAL SPEED[rpm]	5000	i00	i01	i02	i03	i04		i0n
	10000	i10	i11	i12	i13	i14	···	i1n
	20000	i20	i21	i22	i23	i24		i2n
	30000	i30	i31	i32	i33	i34		i3n
	⋮	⋮					⋱	
	100000	im0	im1	im2	im3	im4		imn

Fig.4

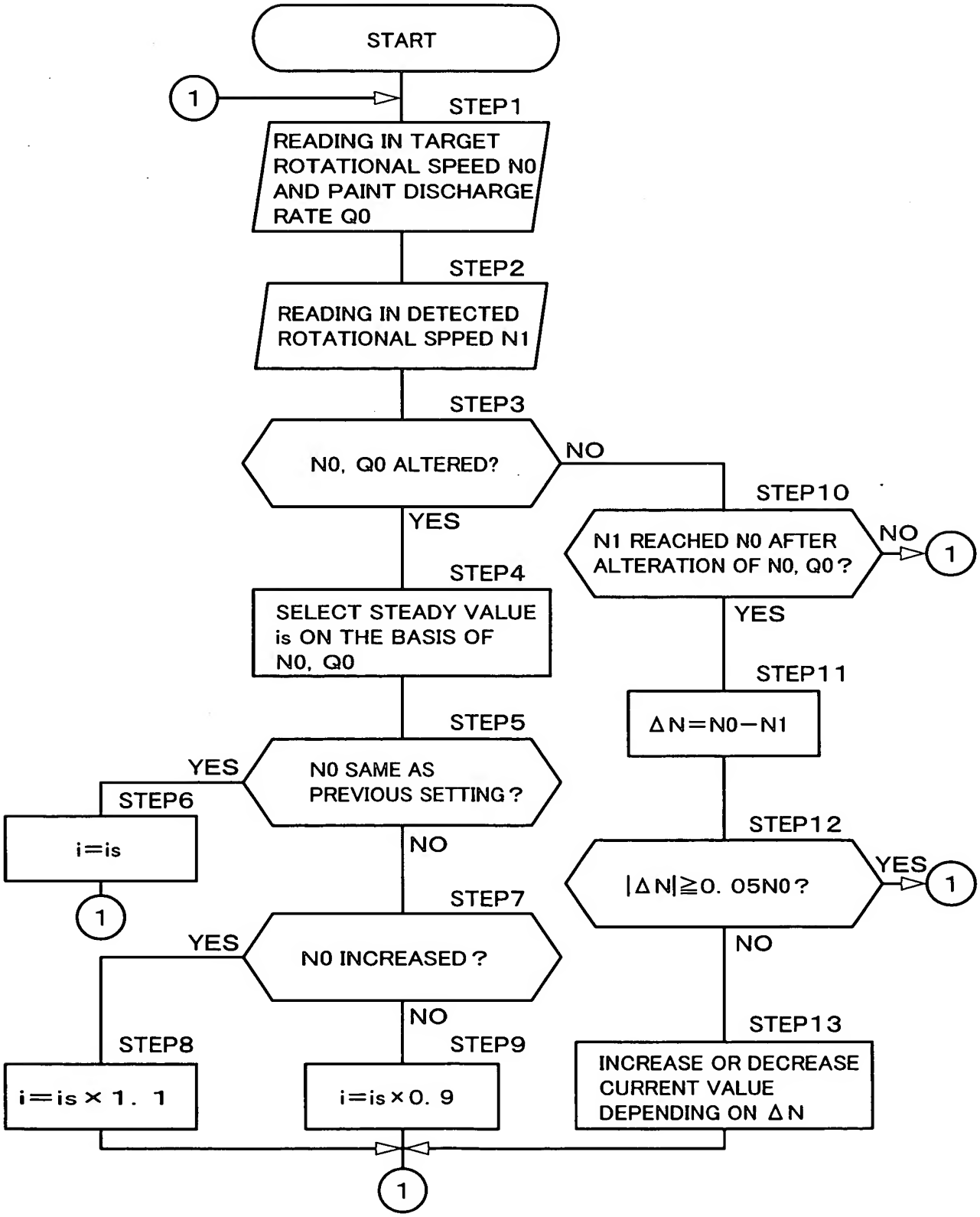

START
1
STEP1
READING IN TARGET ROTATIONAL SPEED N0 AND PAINT DISCHARGE RATE Q0
STEP2
READING IN DETECTED ROTATIONAL SPPED N1
STEP3
N0, Q0 ALTERED?
NO
YES
STEP10
N1 REACHED N0 AFTER ALTERATION OF N0, Q0?
NO
1
YES
STEP4
SELECT STEADY VALUE is ON THE BASIS OF N0, Q0
STEP11
ΔN=N0−N1
STEP5
N0 SAME AS PREVIOUS SETTING?
YES
STEP6
i=is
1
NO
STEP12
|ΔN|≧0.05N0?
YES
1
STEP7
N0 INCREASED?
YES
NO
STEP13
INCREASE OR DECREASE CURRENT VALUE DEPENDING ON ΔN
STEP8
i=is×1.1
STEP9
i=is×0.9
1

Fig.5

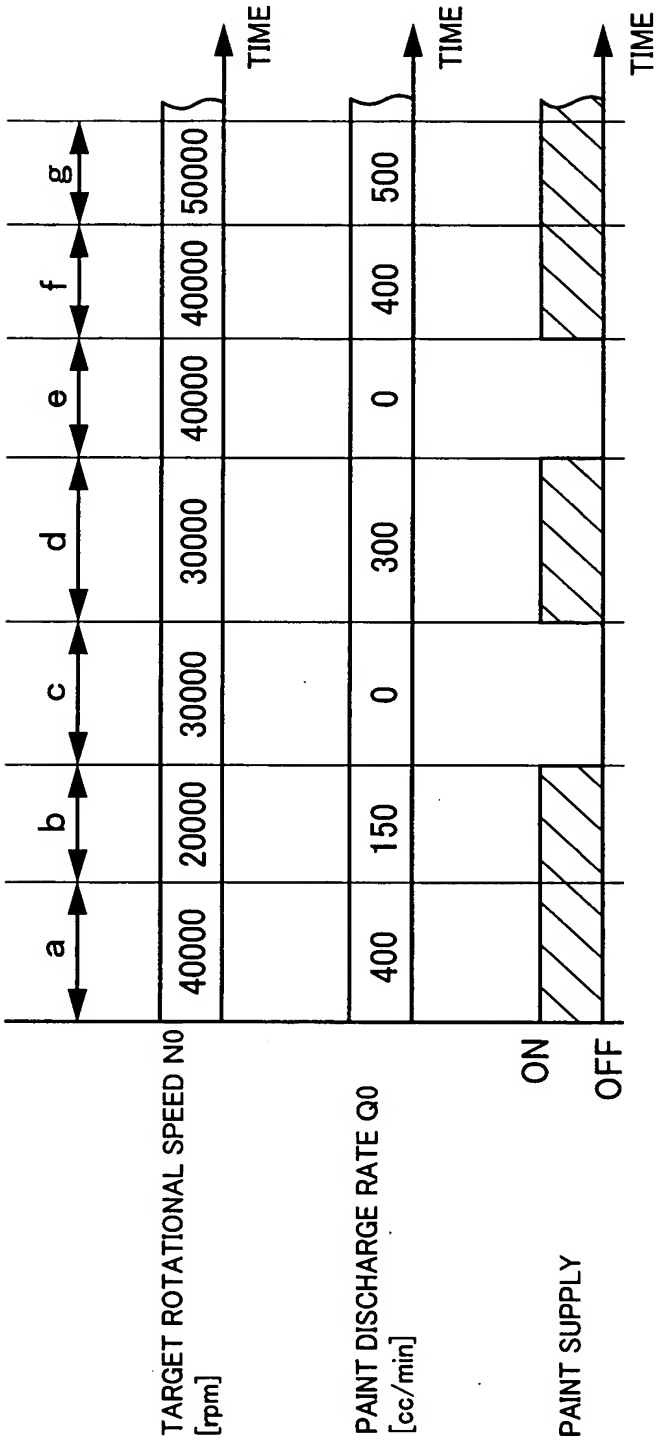

a
b
c
d
e
f
g
40000
20000
30000
30000
40000
40000
50000
TIME
TARGET ROTATIONAL SPEED N0 [rpm]
400
150
0
300
0
400
500
TIME
PAINT DISCHARGE RATE Q0 [cc/min]
ON
OFF
TIME
PAINT SUPPLY

Fig.6

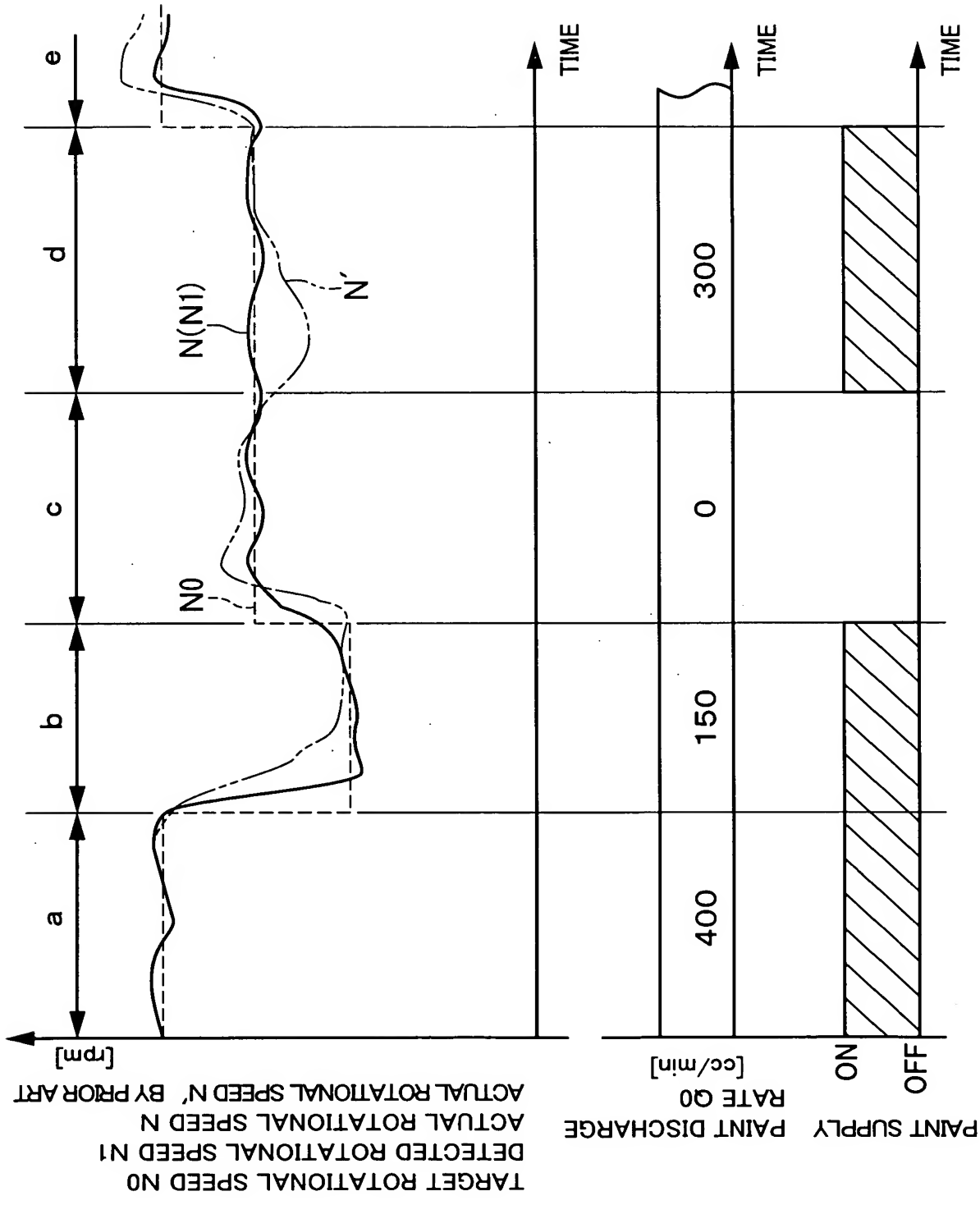

a
b
c
d
e
N0
N(N1)
N'
TIME
TIME
TIME
400
150
0
300
[rpm]
[cc/min]
ON
OFF
TARGET ROTATIONAL SPEED N0
DETECTED ROTATIONAL SPEED N1
ACTUAL ROTATIONAL SPEED N
ACTUAL ROTATIONAL SPEED N' BY PRIOR ART
PAINT DISCHARGE RATE Q0
PAINT SUPPLY

Fig.7

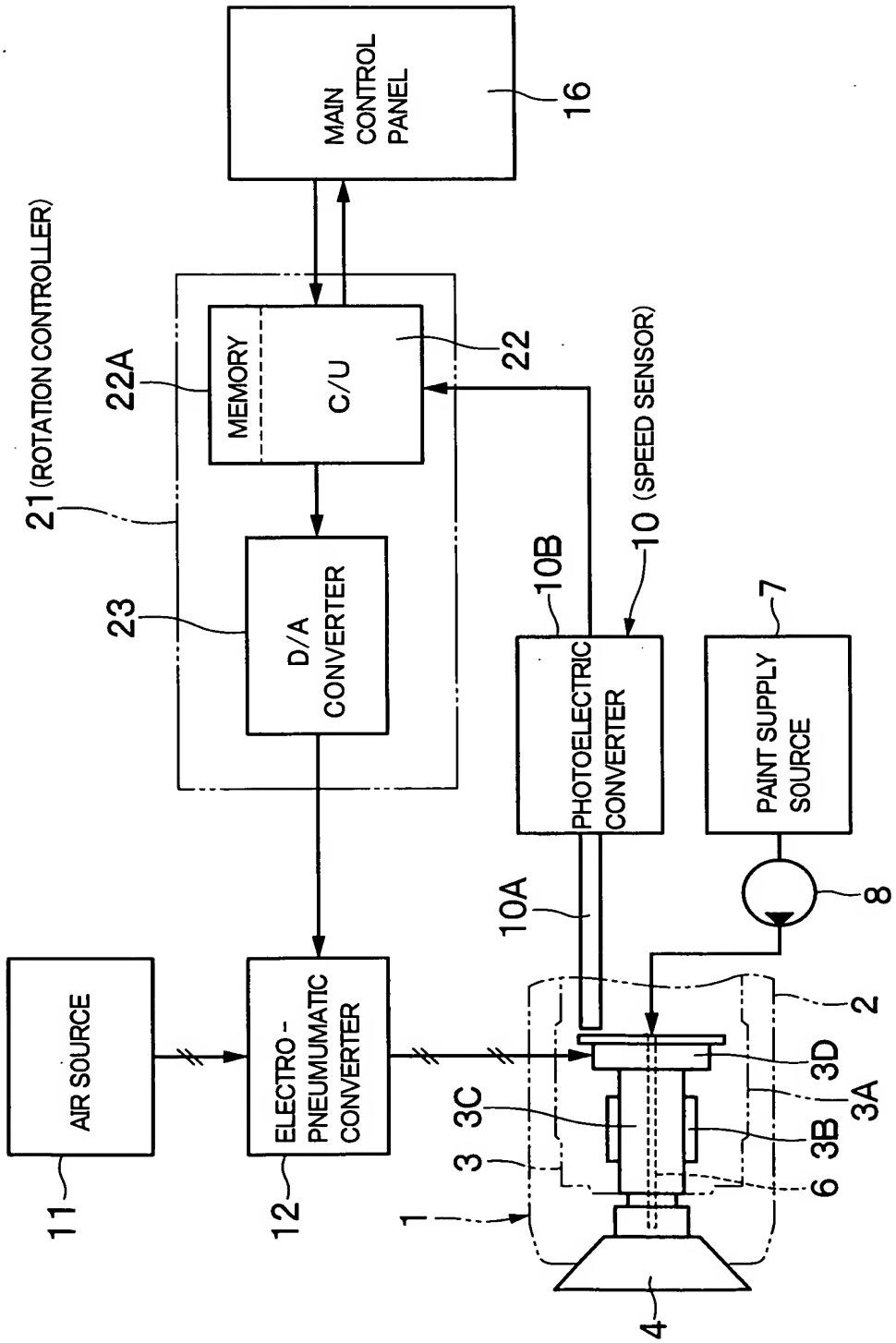

MAIN CONTROL PANEL
16
21 (ROTATION CONTROLLER)
22A
MEMORY
C/U
22
23
D/A CONVERTER
10B
10 (SPEED SENSOR)
PHOTOELECTRIC CONVERTER
7
PAINT SUPPLY SOURCE
10A
8
AIR SOURCE
ELECTRO-PNEUMUMATIC CONVERTER
2
3D
3A
3C
3B
3
6
1
11
12
4

Fig.8

24 (ROTATIONAL DATA SELECTION PROCESSING TABLE)

COEFFICIENT OF VISCOSITY η0, SPECIFIC GRAVITY κ0								
		PAINT DISCHARGE RATE [cc/min]						
		0	100	200	300	400	...	1000
TARGET ROTATIONAL SPEED[rpm]	5000	i000	i001	i002	i003	i004		i00n
	10000	i010	i011	i012	i013	i014	...	i01n
	20000	i020	i021	i022	i023	i024		i02n
	30000	i030	i031	i032	i033	i034		i03n
	⋮	⋮					⋱	
	100000	i0m0	i0m1	i0m2	i0m3	i0m4		i0mn

Fig.9

25 (ROTATIONAL DATA SELECTION PROCESSING TABLE)

COEFFICIENT OF VISCOSITY η 1, SPECIFIC GRAVITY κ 1								
		PAINT DISCHARGE RATE[cc/min]						
		0	100	200	300	400	···	1000
TARGET ROTATIONAL SPEED[rpm]	5000	i100	i101	i102	i103	i104		i10n
	10000	i110	i111	i112	i113	i114	···	i11n
	20000	i120	i121	i122	i123	i124		i12n
	30000	i130	i131	i132	i133	i134		i13n
	⋮	⋮					⋱	
	100000	i1m0	i1m1	i1m2	i1m3	i1m4		i1mn

Fig.10

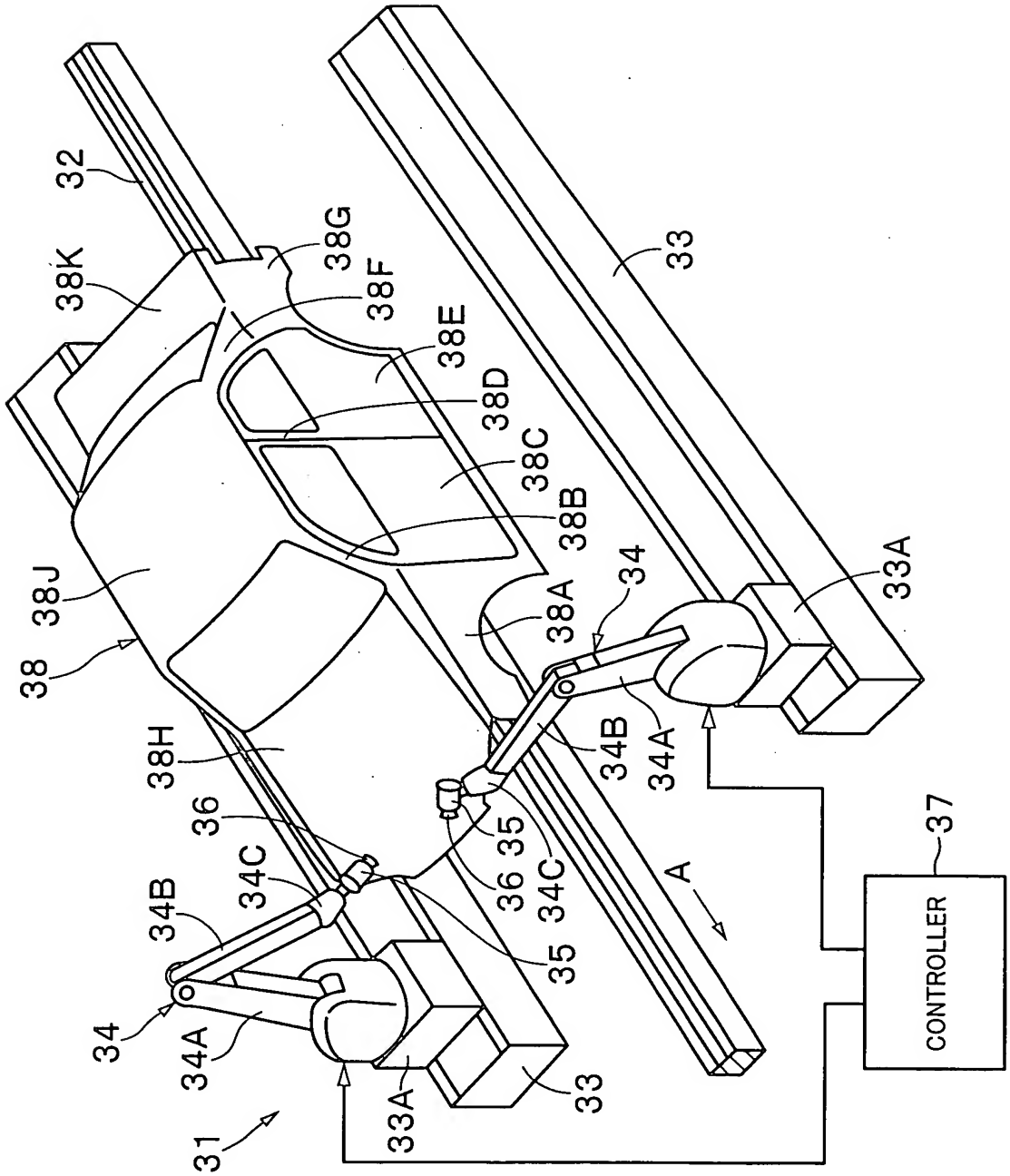
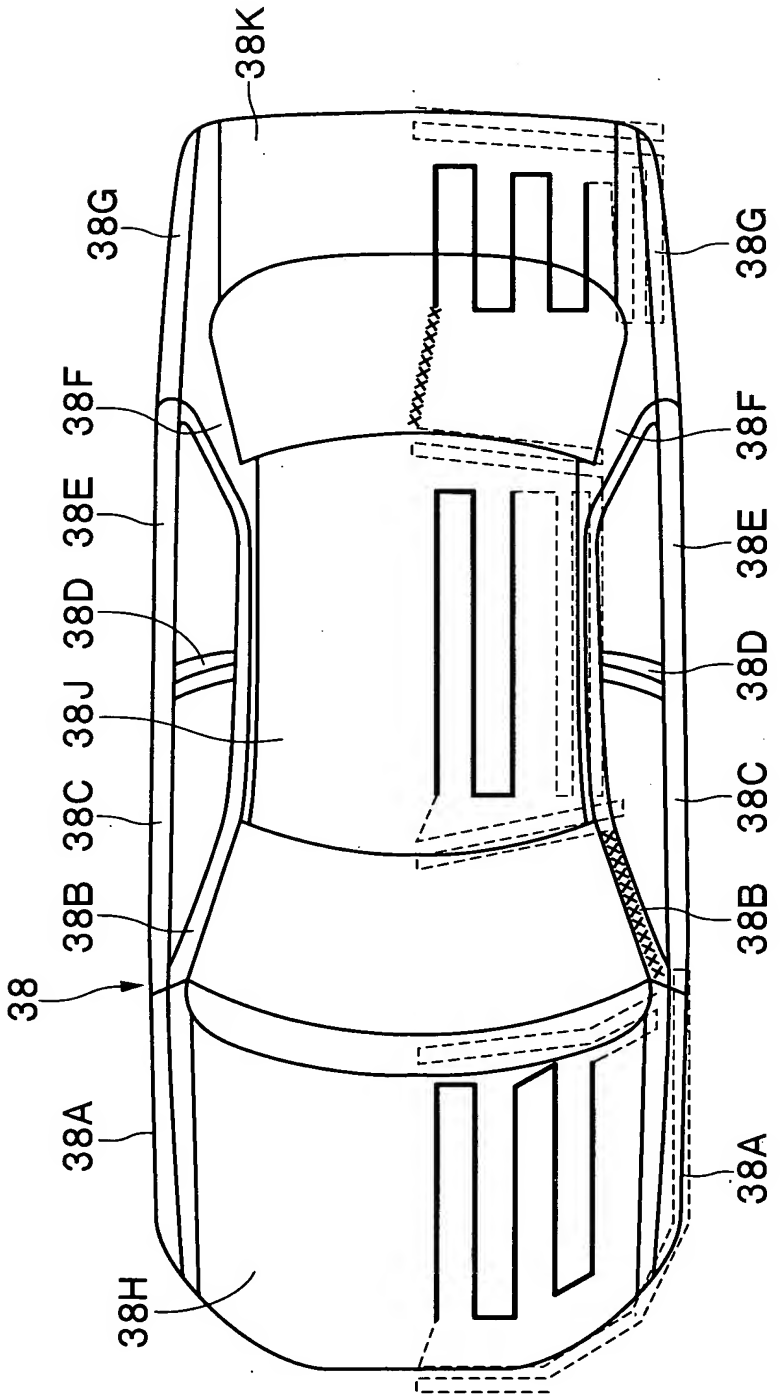

32
38K
38G
38F
38E
38D
38C
38B
38A
38J
38
38H
36
34C
34B
34
34A
33A
31
33
35
34
33A
34A
34B
34C
36
35
A
37
CONTROLLER

Fig.11


38K
38G
38G
38F
38F
38E
38E
38D
38D
38J
38C
38C
38B
38B
38
38A
38A
38H